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EXAMINER

LEON, EDWIN A

ART UNIT

PAPER NUMBER

2833

DATE MAILED: 08/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,984

Applicant(s)

SERBIN ET AL.

Examiner

Edwin A. León

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5 and 15 is/are rejected.
- 7) ☒ Claim(s) 3 and 6-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's cancellation of non-elected Claim 4 is acknowledged. The Examiner agrees with Applicant's argument regarding the restriction of Claim 15. Therefore, the restriction requirement for Claim 15 is withdrawn and the claim will be examined along with the rest of the elected claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4-5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morello et al. (U.S. Patent No. 5,399,110) in view of Endo et al. (U.S. Patent No. 5,338,233). With regard to Claims 1-2, 4 and 15, Morello et al. discloses an electrical connection comprising: an elongated solid conductor (10) having a longitudinally extending groove (28); and a terminal (14) having a base portion (lower part of 14), a first wing (46) and a second wing (46), the base portion (lower part of 14) engaging the solid conductor (10), the first and second wings (46) projecting laterally

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outward and in opposite directions from the base portion (lower part of 14), an outer surface (middle groove of 14) of the terminal (14) carried by the base portion (lower part of 14), the first wing (46) and the second wing (46); and the outer surface (middle groove of 14) having a first distal edge portion (tip of 46) carried by the first wing (46) and disposed within the groove (28) and a second distal edge portion (tip of 46) carried by the second wing (46) and disposed within the groove (28). See Figs. 1-8.

However, Morello et al. doesn't show the first wing and the second wing curling about the solid conductor and projecting into the groove, the first wing and the second wing engaging each other within the groove to resist spring-back of the first and second wings, the first and second distal edge portions being engaged to prevent spring-back of the first and second wings out of the groove, the first and second rails each have a longitudinally extending vertex impinged malleably against the respective first and second wings of the terminal when the terminal is curled and crimped about the conductor providing electrical engagement of the terminal to the conductor.

Endo et al. discloses a terminal (21) having a first wing (13a-b, 11) and a second wing (13a-b, 11) curling and projecting into a groove (Fig. 5), the first wing (13a-b, 11) and the second wing (13a-b, 11) engaging each other within the groove (Fig. 5) to resist spring-back of the first and second wings (13a-b, 11), first and second distal edge portions (tips of 13a-b, 11) being engaged to prevent spring-back of the first and second wings (13a-b, 11) out of the groove (Fig. 5), first and second rails (27, 29) each have a longitudinally extending vertex impinged malleably against the respective first and second wings (13a-b, 11) of the terminal (21) when the terminal (21) is curled and

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crimped about the conductor (7) providing electrical engagement of the terminal (21) to the conductor (7). See Figs. 1-5.

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the terminal of Morello et al. by including first wing and a second wing curling and projecting into a groove, the first wing and the second wing engaging each other within the groove to resist spring-back of the first and second wings, first and second distal edge portions being engaged to prevent spring-back of the first and second wings out of the groove, first and second rails each have a longitudinally extending vertex impinged malleably against the respective first and second wings of the terminal when the terminal is curled and crimped about the conductor providing electrical engagement of the terminal to the conductor as taught in Endo et al. in order to improve the reliability in mechanical and electrical connection between the contact member and the terminal. The method limitations are deemed inherent and therefore read on the combination of Morello et al. and Endo et al. for the reasons stated above.

With regard to Claim 5, Morello et al. discloses an electrical connection comprising: a male pin (10) having a longitudinally extending groove (28), a concave face (upper surface of 28) defining the groove (28), and a convex face (surface below 28) aligned laterally outward from the concave face (upper surface of 28); a terminal (14) having an outer surface (middle groove of 14), an inner surface (lower surface of 14), a first wing (46) and an opposite laterally extending second wing (46); the outer surface (middle groove of 14) of the crimp terminal (14) having a first distal edge portion

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(tip of 46) carried by the first wing (46) and a second distal edge portion (tip of 46) carried by the second wing (46). See Figs. 1-8.

However, Morello et al. doesn't show wherein the inner surface of the crimp terminal being engaged electrically to the male pin when the crimp terminal is curled and crimped about the male pin; and wherein the first and second distal edge portions of the first and second wings are disposed within the groove and extended longitudinally with respect to the male pin, the first distal edge portion being engaged to the second distal edge portion.

Endo et al. discloses a terminal (21) having an inner surface of the crimp terminal (21) being engaged electrically to the male pin (7) when the crimp terminal (21) is curled and crimped about the male pin (7); and wherein the first and second distal edge portions (tip of 13a-b, 11) of the first and second wings (13a-b, 11) are disposed within the groove (Fig. 5) and extended longitudinally with respect to the male pin (13a-b, 11), the first distal edge portion (tip of 13a-b, 11) being engaged to the second distal edge portion (tip of 13a-b, 11). See Figs. 1-5.

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the terminal of Morello et al. by having the inner surface of the crimp terminal being engaged electrically to the male pin when the crimp terminal is curled and crimped about the male pin; and wherein the first and second distal edge portions of the first and second wings are disposed within the groove and extended longitudinally with respect to the male pin, the first distal edge portion being engaged to the second distal edge portion as taught in Endo et al. in order to improve

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the reliability in mechanical and electrical connection between the contact member and the terminal.

Allowable Subject Matter

4. Claims 3 and 6-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The references fail to teach, disclose, or suggest, either alone or in combination, a window carried by the first wing, wherein the compliant first rail of the conductor or male pin extrudes into the window of the first wing when the terminal is curled and crimped about the conductor; and a window carried by the second wing, wherein the compliant second rail of the conductor or male pin extrudes into the window of the second wing when the terminal is curled and crimped about the conductor or male pin and in combination with the rest of the limitations in the base and intermediate claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Turner (U.S. Patent No. 3,182,282), Daum et al. (U.S. Patent No. 4,669,798), Fry et al. (U.S. Patent No. 5,356,318), Dohi (U.S. Patent No. 5,486,653),

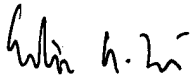
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and Hotea (U.S. Patent No. 5,549,483) disclose terminals having conductors and wings crimped to make contact with the conductors.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin A. León whose telephone number is (703) 308-6253. The examiner can normally be reached on Monday - Friday 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (703) 308-2319. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Edwin A. Leon
AU 2833

EAL
August 5, 2003


P. AUSTIN BRADLEY
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